IN THE TITLE:

Please amend the Title of the Application to as follows:

"Spatial Separation and Multi-Polarization of Antennae in a Wireless ~~Cellular~~ Network"

IN THE SPECIFICATION

Please amend the specification as follows:

• Please amend the paragraph beginning at line 16 on page 19 as follows:

Figure 6a is a plot of the singular values (averaged across small scale fades) versus time for the system of Figure 4 that includes spatially separate antennae having the same polarization states and a K-factor of 6 dB. The system of Figure 4 includes two transmitter antennae and three receiver antennae. Therefore the channel matrix H has two singular values. The first singular value 605 has an average value of about 7.5 dB relative to a normalized reference. The second singular value 610 has an average value of about -12.5 dB. Therefore, the resulting singular value spread is about 7.5 + 12.5 = 20 dB.

• Please amend the paragraph beginning at line 3 of page 20 as follows:

Figure 6b is a plot of the singular values versus time for the system of Figure 5 that includes spatially separate antennae having the different polarization states and a K-factor of 6 dB. Again, the channel matrix H has two singular values. The first singular value 615 has an average value of about 5 dB. The second singular value 620 has an average value of about -5 dB. Therefore, the resulting singular value spread is about 5 + 5 = 10 dB. The system of Figure 5 provides a singular value spread that is 10 dB less than the singular value spread of the system of Figure 4, and therefore, has a better noise enhancement performance.

• Please amend the paragraph beginning with line 11 of page 20 as follows:

Figure 6c is a plot that shows the capacity of the systems of Figure 4 and Figure 5 with a K-factor of 6 dB. As shown in Figure 6c, the capacity of the system of Figure 5 (denoted with line 635) is greater than the capacity of the system of Figure 4 (line 630). The probability axis indicates the probability that a receiver can receive information at the specified capacity or less. The capacity axis indicates the capacity of the channel for the specified antenna polarization settings.

• Please amend the paragraph beginning with line 17 of page 20 as follows:

Figure 7a is a plot of the singular values versus time for the system of Figure 4 that includes spatially separate antennae having the same polarization states and a K-factor of 10 dB. Again, the channel matrix H has two singular values. The first singular value 705 has an average value of about 7.5 dB relative to a normalized reference. The second singular value 710 has an average value of about -15 dB. Therefore, the resulting singular value spread is about 7.5 + 12.5 = 22.5 dB.

• Please amend the paragraph beginning at line 1 of page 21 as follows

Figure 7b is a plot of the singular values versus time for the system of Figure 5 that includes spatially separate antennae having the different polarization states and a K-factor of 10 dB. Again, the channel matrix H has two singular values. The first singular value 715 has an average value of about 4 dB. The second singular value 720 has an average value of about -4 dB. Therefore, the resulting singular value spread is about 5 + 5 = 8 dB. The system of Figure 5

provides a singular value spread that is 14.5 dB less than the singular value spread of the system of Figure 4.

• Please amend the paragraph beginning with line 8 of page 21 as follows:

Figure 7c is a plot that shows the capacity of the systems of Figure 4 and Figure 5 with a K-factor of ~~6~~ 10 dB. As shown in Figure 7c, the capacity of the system of Figure 5 (denoted with line 735) is greater than the capacity of the system of Figure 4 (line 730). The probability axis indicates the probability that a receiver can receive information at the specified capacity or less. The capacity axis indicates the capacity of the channel for the specified antenna polarization settings.